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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,980	07/10/2003	Jin-Sheng Gong	BHT/3111-339	1256

7590   09/04/2007

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EXAMINER
ROSARIO, DENNIS

ART UNIT	PAPER NUMBER
2624	

MAIL DATE	DELIVERY MODE
09/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/615,980	GONG ET AL.
	Examiner	Art Unit	
	Dennis Rosario	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 July 2007</u>.
2a) ☐ This action is **FINAL**.　　2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-21</u> is/are pending in the application.
　　4a) Of the above claim(s) <u>7 and 16</u> is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-6,8-15 and 17-21</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>10 July 2003</u> is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　　a) ☒ All　b) ☐ Some *　c) ☐ None of:
　　　　1. ☒ Certified copies of the priority documents have been received.
　　　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.
　　　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   Applicant's election without traverse of Species II in the reply filed on 7/3/07 is acknowledged. Claims 1-6,8-15 and 17-21 are pending. Claims 7 and 16 are withdrawn as being non-elected species I.

Drawings

2.   The drawings of figures 10A-10C are objected to under 37 CFR 1.83(a) because they fail to show offsets and positions and coordinates as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the

drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

4.   Claims 3,4,5,6,9,10 and 21 are rejected under 35 U.S.C. 112, second paragraph,

as being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

Note that claims 3,4,5,6,9,10 and 21 are direct more towards a method claim and

not an apparatus claim.

Claim 3 is not given patentable weight and is intended use since there is no

structure claimed that performs the claimed "included" (claim 3,line 2).

Claim 4 is not given patentable weight and is intended use since there is no

structure claimed that outputs different resolutions.

Claim 5 is rejected the same as claim 4. Thus, argument similar to that

presented above for claim 4 is equally applicable to claim 5.

Claim 6 is not given patentable weight and is intended use since there is no

claimed structure that can performed the claimed "reproduced" (claim 6,line 2).

Claim 9 is not given patentable weight and is intended use since there is no

claimed structure that can perform the claimed "chosen" (claim 9,line 2).

Claims 10 and 21 are rejected the same as claim 9. Thus, argument similar to

that presented above for claim 9 is equally applicable to claims 10 and 21.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claims 1,6 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by

Endo et al. (US Patent 4,652,928).

Regarding claim 1, Endo discloses an apparatus for outputting a plurality of

output frames according to a plurality of corresponding input frames, comprising:

a)   a selector for selecting (as indicated in figures 5A-5D that selects

directions) a plurality of first sampling positions for a first input frame and a plurality of

second sampling positions for a second input frame, wherein said first sampling

positions and said second sampling positions are not substantially the same; and

b)   a decision unit for outputting (fig. 8,num. 94) a first output frame through

sampling said first input frame according to said first sampling positions and

outputting a second output frame through sampling said second input frame

according to said second sampling positions (any unaddressed limitations are intended

use and not given patentable weight).

Regarding claim 6, Endo discloses the apparatus of claim 1, wherein said first

input frame can be reproduced according to said first output frame and said second

output frame (any unaddressed limitations are intended use and not given patentable

weight).

Regarding claim 11, Endo discloses the apparatus of claim 1, wherein said

selector includes a flip-flop (fig. 15,num. 186).

7.   Claims 12,15, 20 and 21 are rejected under 35 U.S.C. 102(b) as being

anticipated by Blalock et al. (US Patent 6,249,269 B1).

Regarding claim 12, Blalock discloses a method for sampling input image and

outputting an output image, said input image comprising a plurality of image frames,

each image frame comprising a plurality of pixels, said method comprising steps of:

a)   selecting a plurality of first sampling positions (via fig. 16,num. 140) for a

first input frame (corresponding to an O frame in fig. 16,num. 235) and a plurality of

second sampling positions for a second input frame (corresponding to an E frame in fig.

16,num. 235),

a1)   wherein said first sampling positions and said second sampling

positions are not substantially the same (as indicated in fig. 11F that has a high position

for the first sampling position while at the same time that the high position is present, a

second low position is present as shown in fig. 11G corresponding to the claimed

second sampling position); and

b)   outputting a first output frame (via fig. 16,num. 67) through sampling said

first input frame according to said first sampling positions and

c)   outputting a second output frame (via fig. 16,num. 67) through sampling

said second input frame according to said second sampling positions.

Regarding claim 15, Blalock discloses the method of claim 12, wherein said output image includes:

a) a first set of first output frames (corresponding to said O frame in fig. 16,num. 235) generated through sampling (via fig. 16,num. 140) the first input frames (corresponding to said O frame in fig. 16,num. 235) according to said first sampling positions and

b) a second set of second output frames (corresponding to said E frame in fig. 16,num. 235) generated through sampling (via fig. 16,num. 140) the second input frames (corresponding to said E frame in fig. 16,num. 235) according to said second sampling positions.

Regarding claim 20 Blalock discloses an apparatus for sampling an input image and outputting an output image, said input image comprising a plurality of input frames, each of said input frames comprising a plurality of pixels, said apparatus comprising:

a)   a frame decision unit (fig. 16,num. 235) for grouping said input frames into at least a first set and a second set of input frames; and

b)   a pixel selector (fig. 16,num. 140), coupled to said frame decision unit, for sampling the first set of input frames according to a plurality of first sampling positions, and

c)   sampling the second set of input frames according to a plurality of second sampling positions;

bc)   wherein the first sampling positions and the second sampling positions are not substantially the same (any unaddressed limitations are intended use and not given patentable weight).

Regarding claim 21, Blalock discloses the apparatus of claim 20, wherein each of said first and second sampling positions is chosen according to an offset value respectively (claim 21 is intended use).

8.   Claims 1-5,8,10,12-14,17 and 19 are rejected under 35 U.S.C. 102(e) as being

anticipated by Deering et al. (US Patent 6,417,861 B1).

Regarding claim 12, Deering discloses a method for sampling input image and

outputting an output image, said input image comprising a plurality of image frames,

each image frame comprising a plurality of pixels, said method comprising steps of:

a)   selecting a plurality of first sampling positions for a first input frame and a

plurality of second sampling positions for a second input frame (or "sample density may

be varied on a...per-frame...basis" in col. 6, lines 10,11 or "vary the sample positions on

a frame-by-frame basis...(col. 6, lines 21,22)"),

a1)   wherein said first sampling positions and said second sampling

positions are not substantially the same (since they can vary on a per frame basis); and

b)   outputting a first output frame (corresponding to "rendered...on a per-

frame...basis" in col. 6, lines 6-11) through sampling said first input frame according to

said first sampling positions and

c)   outputting a second output frame (corresponding to "rendered...on a per-

frame...basis" in col. 6, lines 6-11) through sampling said second input frame according

to said second sampling positions.

Regarding claim 13, Deering discloses the method of claim 12, wherein at least

one of said first sampling positions is not included in said second sampling positions

(given that the sample positions can be varied on a frame by frame basis; thus, a

sample position in a first frame is not the same as the sample position of the second

frame since the sample positions can vary or are different from each other.).

Regarding claim 14, Deering discloses the method of claim 12, wherein the resolution of said first input frame and the resolution of said first output frame are different (corresponding to "Super-Sampled" in fig. 6, num. 162).

Regarding claim 17, Deering discloses the method of claim 12, wherein each input frame comprises a plurality of horizontal lines, and each horizontal line comprises a plurality of pixels, wherein step of selecting comprises:

a)   selecting (from one of three patterns as shown in fig. 8):

a1)   a plurality of first sampling pixel positions (as shown in fig. 8.num. 190) of each horizontal line (an inherent feature of images and grids) of the first input frame and

a2)   a plurality of second sampling pixel positions (as shown in fig. 8.num. 190) of each horizontal line (an inherent feature of images) of the second input frame; and

b)   selecting (from one of three patterns as shown in fig. 8):

b1)   a plurality of first sampling horizontal line positions (as shown in fig. 8.num. 190) of the first input frame and

b2)   a plurality of second sampling horizontal line positions (as shown in fig. 8.num. 190) of the second input frame.

Regarding claim 19, Deering discloses the method of claim 12, wherein each of said first and second sampling positions is chosen according to an offset value (as shown in fig. 9,numerals 134 and 136) respectively.

Regarding claim 1, Deering discloses an apparatus for outputting a plurality of output frames according to a plurality of corresponding input frames, comprising:

a)   a selector for selecting (fig. 12,num. 214) a plurality of first sampling positions for a first input frame and a plurality of second sampling positions for a second input frame, wherein said first sampling positions and said second sampling positions are not substantially the same; and

b)   a decision unit for outputting (fig. 12,num. 224) a first output frame through sampling said first input frame according to said first sampling positions and outputting a second output frame through sampling said second input frame according to said second sampling positions.

Regarding claim 2, Deering discloses the apparatus of claim 1, further comprising:

a)   a data buffer (corresponding to fig. 12,num. 224: "...buffer") for receiving the output of the decision unit, and outputting said output frame.

Claim 3 is rejected the same as claim 13. Thus, argument similar to that presented above for claim 13 is equally applicable to claim 3.

Claim 4 is rejected the same as claim 14. Thus, argument similar to that presented above for claim 14 is equally applicable to claim 4.

Regarding claim 5, Deering discloses the apparatus of claim 4, wherein the resolution of said first input frame is larger than the resolution of said first output frame (via "shrinking" in col. 10, line 58).

Regarding claim 8, Deering discloses the apparatus of claim 1, wherein each

input frame comprises a plurality of horizontal lines, and each horizontal line comprises

a plurality of pixels, wherein said selector further comprises:

a) a horizontal pixel selector ("look-up table" in col. 25, line 48) for selecting a

plurality of first sampling pixel positions of each horizontal line of the first input frame

and a plurality of second sampling pixel positions of each horizontal line of the second

input frame; and

b) a horizontal line selector (fig. 11A,num. 400) for selecting a plurality of first

sampling horizontal line positions of the first input frame and a plurality of second

sampling horizontal line positions of the second input frame.

Claim 10 is rejected the same as claim 19. Thus, argument similar to that

presented above for claim 19 is equally applicable to claim 10.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Deering et al. (US Patent 6,417,861 B1) in view of Tokuyama et al. (US Patent

6,438,274 B1).

Regarding claim 9, Deering teaches that "sample offsets [are] generated

according to a number of different schemes" in col. 15, lines 10,11.

Tokuyama teaches one scheme of generating an offset via fig. 5,num. 511 and claim 9 of:

a)   wherein each of said first (as represented in fig. 9 as four or 2X2 bottom most squares) and second sampling pixel positions (as represented in fig. 1 as a 3X3 bottom most squares) is chosen according to an offset value respectively (where the 2X2 squares of fig. 9 have no offset while fig. 1 has an "OFFSET AMOUNT"), wherein said offset value of said first sampling pixel positions of is 0, and said offset value of said second sampling pixel positions is M/N-1 (or "$I_r=I_0/X$" in col. 14, line 13), wherein M is the number of horizontal pixels of said input image (represented by said X of I_r since X describes "...the number of pixels...is reduced...in the main scanning direction" in col. 13, lines 49-53), and N is the number of horizontal pixels of said output image (or said I_r which represents the number of reduced pixels in the main scanning direction after reduction.).

Note that no patentable weight is given to the structure of the claimed formula, namely the claimed "-1" portion of M/N-1 just the variables of the equation were given patentable weight. However, if the structure of M/N-1 were given patentable weight, the rejection of Tokuyama will be withdrawn since Tokuyama does not teach the "-1" portion.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify Deering's teaching of using a plurality of schemes to obtain an offset with Tokuyama's scheme of obtaining an offset, because Tokuyama's offset "improve[s] the image quality" in col. 16, line 5.

Claim 18 is rejected the same as claim 9. Thus, argument similar to that presented above for claim 9 is equally applicable to claim 18.
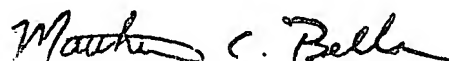
Conclusion

11.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is (571) 272-7397. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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